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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/746,174	12/21/2000	Christopher S. MacLellan	EMC2-085PUS	2915

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DALY, CROWLEY & MOFFORD, LLP  
SUITE 101  
275 TURNPIKE STREET  
CANTON, MA 02021-2310

EXAMINER

BAKER, STEPHEN M

ART UNIT	PAPER NUMBER
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2133

DATE MAILED: 07/23/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/746,174

Applicant(s)

MACLELLAN, CHRISTOPHER S.

Examiner

Stephen M. Baker

Art Unit

2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 2 and 4-7 are objected to because of the following informalities: in claims 4-7, "...D(N-1)]" should read as "...D(N-1)]]"; in claims 5 and 6, "Cycle Redundancy Cycle" should read as "Cyclic Redundancy Check"; in claims 2 and 7, "Cyclic Redundancy Cycle" should read as "Cyclic Redundancy Check". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 3-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 3: "such data having a parity bit" omits essential elements of the invention and apparently should read as "such data having byte parity bits"; "comparing the parity of the data" apparently should read as "comparing the parity of the byte parity bits". It is here noted, however, that these corrections would give claim 3 the same coverage as claim 2.

In claim 4: in lines 2-3, "each byte having a parity bit p" is not consistent with line 4 of the claim and apparently should read as "each byte D(M) having a parity bit P(M)".

In claim 5: in lines 3-4, "each byte having a parity bit p" is not consistent with line 5 of the claim and apparently should read as "each byte D(M) having a parity bit P(M)".

In claim 6: in lines 3-4, "each byte having a parity bit P" is not consistent with line 5 of the claim and apparently should read as "each byte D(M) having a parity bit P(M)"; in line 5, "computing the parity of [P(0),P(1), ...P(N-1)]" apparently should read as "computing the parity, PP, of [P(0),P(1), ...P(N-1)]".

In claim 7: in lines 4-5, "each byte having a parity bit p" is not consistent with line 6 of the claim and apparently should read as "each byte D(M) having a parity bit P(M)", however claim 6 appears to have identical coverage.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. Claims 1-5 are rejected under 35 U.S.C. 102(a) as being anticipated by U.S. Patent No. 6,125,466 to Close *et al* (hereafter Close).

Close discloses a DRAM with a so-called "product code" formed of vertical and horizontal parity check bits. The horizontal parity check comprises a parity bit for each data byte (col. 3, lines 53-54). The vertical parity byte is also known as an LRCC-8, which is a simple form of CRC having a generator polynomial of  $(X^8+1)$ .

Regarding claim 4: the vertical parity is a concatenation of LRCC-8, calculated over the byte data bit positions, together with a vertical parity bit calculated over the byte parity bit positions.

Regarding claims 1 and 5: a property inherent to a combination of vertical and horizontal parity check bits such as disclosed by Close is that the vertical parity calculated over the byte parity bit positions is also the byte parity for the LRCC-8 byte.

Regarding claims 2 and 3: checking the vertical parity necessarily involves comparing the transmitted vertical parity with recalculated vertical parity. As previously noted, the transmitted vertical parity includes parity over the byte parity bits, which serves as "the parity bit of the CRC of the data", and recalculating the vertical parity requires "generating parity of the parity bits".

### ***Allowable Subject Matter***

6. Claim 6 would be allowable if rewritten to overcome the rejections under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ramabadran *et al* discusses LRCC-8 and other types of CRC.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. Baker whose telephone number is (703)

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305-9681. The examiner can normally be reached on Monday-Friday (11:00 AM - 7:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on (703) 305-9595. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3800.



Stephen M. Baker  
Primary Examiner  
Art Unit 2133

smb  
July 21, 2003